CLAIMS

What is claimed is:

1. An electrode unit comprising:

a first electrode plate having a first electrode uncoated portion on at least one side of a first electrode collector coated with at least a first electrode active material;

a second electrode plate having a second electrode uncoated portion on at least one side of a second electrode collector coated with at least a second electrode active material; and

a separator interposed between the first electrode plate and the second electrode plate; wherein a portion of the separator provided between the first electrode uncoated portion and the second electrode uncoated portion has at least two folds.

2. The electrode unit of claim 1, wherein the first electrode uncoated portion and the second electrode uncoated portion overlap each other by a predetermined width with the at least two-fold portion of the separator disposed therebetween.

3. The electrode unit of claim 2, further comprising a first electrode tab located on the first electrode uncoated portion proximate to the two-fold portion of the separator or a second electrode tab located on the second electrode uncoated portion proximate to the two-fold portion of the separator.

4. The electrode unit of claim 3, further comprising an insulating tape attached to a portion where the first or second electrode tab corresponding to the first or second electrode uncoated portion, is positioned.

5. The electrode unit of claim 2, wherein the at least two-fold portion of the separator provided between the first electrode uncoated portion and the second electrode uncoated portion is formed such that an end of the portion of the separator is folded or wound between the first electrode plate and the second electrode plate.

6. A secondary battery comprising:

an electrode unit having a first electrode plate having a first electrode uncoated portion on at least one side of a first electrode collector coated with at least a first electrode active material, a second electrode plate having a second electrode uncoated portion on at least one side of a second electrode collector coated with at least a second electrode active material, and a separator interposed between the first electrode plate and the second electrode plate, wherein an insulating separator having at least two folds is provided between the first electrode uncoated portion and the second electrode uncoated portion; and

a case accommodating the electrode unit to be sealed, and having a terminal portion electrically connected to the electrode unit.

7. The secondary battery of claim 6, wherein the first electrode uncoated portion and the second electrode uncoated portion overlap each other by a predetermined width with the at least two-fold portion of the separator disposed therebetween.

8. The secondary battery of claim 7, further comprising a first electrode tab located on the first electrode uncoated portion proximate to the two-fold portion of the separator or a second electrode tab located on the second electrode uncoated portion proximate to the two-fold portion of the separator.

9. The secondary battery of claim 8, further comprising an insulating tape attached to a portion where the first or second electrode tab corresponding to the first or second electrode uncoated portion, is positioned.

10. The secondary battery of claim 7, wherein the at least two-fold portion of the separator provided between the first electrode uncoated portion and the second electrode uncoated portion is formed such that an end of the portion of the separator interposed between the first electrode plate and the second electrode plate is folded or wound.

11. A method of preparing an electrode unit comprising:

coating a first electrode collector of a first electrode plate, with at least a first electrode active material, on at least a portion of one side of the first electrode collector;

coating a second electrode collector of a second electrode plate, with at least a second electrode active material, on at least a portion of one side of the second electrode collector; and

interposing a separator between the first electrode plate and the second electrode plate; wherein a portion of the separator provided between the first electrode uncoated portion and the second electrode uncoated portion has at least two folds.

12. The method of claim 11, further including overlapping the first electrode uncoated portion with the second electrode uncoated portion by a predetermined width with the at least two-fold portion of the separator disposed therebetween.

13. The method of claim 12, further including positioning a first electrode tab on the first electrode uncoated portion proximate to the two-fold portion of the separator or a second electrode tab on the second electrode uncoated portion proximate to the two-fold portion of the separator.

14. The method of claim 13, further including attaching an insulating tape to a portion where the first or second electrode tab corresponding to the first or second electrode uncoated portion is positioned.

15. The method of claim 12, further including inserting the at least two-fold portion of the separator between the first electrode uncoated portion and the second electrode uncoated portion such that an end of the portion of the separator is folded or wound between the first electrode plate and the second electrode plate.

16. A method of manufacturing a secondary battery comprising:

preparing an electrode unit by:

coating a first electrode collector of a first electrode plate, with at least a first electrode active material, on at least a portion of one side of the first electrode collector;

coating a second electrode collector of a second electrode plate, with at least a second electrode active material, on at least a portion of one side of the second electrode collector;

interposing a separator between the first electrode plate and the second electrode plate to form an insulating separator having at least two folds between the first electrode uncoated portion and the second electrode uncoated portion; and

winding the first electrode plate, the separator and the second electrode plate to form an electrode unit and placing the electrode unit in a case to be sealed,

wherein a terminal portion of the case is electrically connected to the electrode unit.

17. The method of claim 16, further including overlapping the first electrode uncoated portion with the second electrode uncoated portion by a predetermined width with the at least two-fold portion of the separator disposed therebetween.

18. The method of claim 17, further including positioning a first electrode tab or a second electrode tab at the overlapping portion of the first and second electrode uncoated portions.

19. The method of claim 18, further comprising attaching an insulating tape to a portion where the first or second electrode tab corresponding to the first or second electrode uncoated portion, is positioned.

20. The method of claim 17, further including inserting the at least two-fold portion of the separator between the first electrode uncoated portion and the second electrode uncoated portion such that an end of the portion of the separator is folded or wound between the first electrode plate and the second electrode plate.